THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte PREMKUMAR DEVANBU

Appeal No. 96-4026
Application 07/781,564[1]

ON BRIEF

Before THOMAS, KRASS, and BARRETT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 13, all of the claims pending in the application.

The invention pertains to a method and apparatus for analyzing source code. More particularly, the invention employs an independent parse tree, derived from a dependent parse tree representing the source code. While the dependent parse tree is dependent on either the source code's language or on the

[1] Application for patent filed October 22, 1991.

environment in which the executable code is produced from the source code, or both, the independent parse tree is independent of both the language and the environment. Information about the source code is then discovered by analyzing the independent parse tree.

Representative independent claim 1 is reproduced as follows:

1. A method of discovering information useful to a programmer about a specific aspect of the source code of a computer program, the source code being written and compiled in one of a plurality of language-environment combinations and the method comprising the steps of:

receiving a dependent parse tree for the program which is generated as required by the language-environment combination used to write and compile the source code;

translating the dependent parse tree into an independent parse tree which is independent of the language-environment combination; and

analyzing the independent parse tree as required to obtain the information.

The examiner relies on the following reference:

Chan et al. (Chan) 5,276,881 Jan. 4, 1994

Claims 1, 2, 4 through 8 and 10 through 13 stand rejected under 35 U.S.C. ' 102(e) as anticipated by Chan. Claims 3 and 9 stand rejected under 35 U.S.C. ' 103 as unpatentable over Chan.

Reference is made to the briefs and answer for the respective positions of appellant and the examiner.

OPINION

We reverse.

Turning first to the examiner's application of Chan to independent claims 1 and 7, the examiner basically relies on Chan's Figure 12, equating the abstract syntax tree 1204 to appellant's claimed dependent parse tree, equating Chan's semantic analyzer 1128 to the claimed translator and equating Chan's decorated abstract syntax tree 1210 to the claimed independent parse tree.

We are in agreement with appellant that the examiner's reasoning is faulty. As explained by appellant, at page 6 of the brief, the problem with Chan is that it is directed to "only a single language-environment combination, and neither tree 1204 nor tree 1210 is independent of that language-environment combination." As seen in Chan's Figure 12, the decorated abstract syntax tree 1210 of Chan is used to generate object code. In this sense, it can be seen that Chan's tree 1210 is more akin to appellant's dependent parse tree. That being the case, Chan discloses nothing regarding an independent parse tree, or the translator for translating the dependent parse tree into an independent parse tree, as claimed. Accordingly, Chan cannot anticipate the instant claimed invention as set forth in instant claims 1, 2, 4 through 8 and 10 through 12 nor does it make obvious the subject matter of dependent claims 3 and 9.

Turning now to independent claim 13, this claim calls for an "analyzer generator" for performing recited functions as well as "the specification has the property that any method indicated thereby can be completed in a length of time which is a polynomial function of the size of the parse tree."

With regard to the "polynomial function" limitation, the examiner takes the position that "the required time will always be proportional to the size of the tree. Therefore, such a property is inherent to the applied reference" [answer, page 6]. This is clearly inaccurate. As recited at page 10 of the instant specification, some lists may be constructed which are "exponential in the size of a parse tree." Since it is possible to write queries whose execution time can be exponential in the size of the parse tree, clearly the examiner's reasoning that completing a method in a length of time which is a polynomial function of the size of the parse tree is "inherent" is in error. That being the case, the examiner has not shown that Chan discloses each and every element of the claim as well as the claimed functions, i.e., that the length of time is a polynomial function of the size of the parse tree. Accordingly, Chan cannot anticipate the subject matter of claim 13.

Moreover, claim 13 calls for a specification which is received by an analyzer generator and indicates a method whereby information may be obtained from the parse tree. Again, we agree with appellant, at page 8 of the brief, that "there is absolutely

nothing corresponding to the claimed ‘method specification’ in Chan.” Accordingly, Chan is not an anticipating reference with regard to the instant claimed subject matter.

The examiner’s decision rejecting claims 1, 2, 4 through 8 and 10 through 13 under 35 U.S.C. ' 102(e) and claims 3 and 9 under 35 U.S.C. ' 103 is reversed.

REVERSED

James D. Thomas Administrative Patent Judge	)
Errol A. Krass Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
Lee E. Barrett Administrative Patent Judge	)

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